Amendments to the Claims:

This Listing of Claims should replace all prior versions and listings of claims in this application.

Listing of Claims:

1. (Currently Amended) A method for detecting the presence or absence of a wound-specific bacterium in a sample selected from a wound, a body fluid or fluid from a wound, said method comprising the steps of:

a) contacting said sample with a surface-attached, detectably labeled synthetic α1-proteinase inhibitor reactive site loop domain peptide substrate selected from the group consisting of EAAGAMFLEAIPK (SEQ ID NO: 1), EGAMFLEAIPMSIPK (SEQ ID NO: 2), KGTEAAGAMFLEAIPMSIPPEVK (SEQ ID NO: 3), GAMFLEAIPMSIPPE (SEQ ID NO: 4), CGAMFLEAIPMSIPAAAHHHHH (SEQ ID NO: 5), and variants, homologs or fragments of any of said peptide substrates, under conditions that result in cleavage of said substrate by ~~an~~ a protease enzyme produced in said sample by a wound-specific bacterium; and

b) detecting a cleavage or an absence of the cleavage of the substrate, the cleavage of the substrate indicating the presence of the wound-specific bacterium in the sample and absence of the cleavage of the substrate indicating absence of the wound-specific bacterium in the sample.

2. (Currently Amended) A method according to Claim 1, wherein the ~~bacterium is a~~ wound-specific bacterium is selected from the group consisting of *Staphylococcus aureus, Staphylococcus epidermidis, Streptococcus pyogenes, Pseudomonas aeruginosa, Enterococcus faecalis, Serratia marcescens, Proteus mirabilis, Enterobacter clocae, Acetinobacter anitratus, Klebsiella pneumonia,* and *Escherichia coli.*

3. (Canceled)

4. (Previously Presented) A method according to Claim 1, wherein the substrate is labeled with a fluorescent probe and a quencher dye molecule.

5. (Previously Presented) A method according to Claim 1, wherein the substrate is labeled by a label selected from the group consisting of spin labels, antigen tags, epitope tags, haptens, enzyme labels, prosthetic groups, fluorescent materials, pH-sensitive materials, chemiluminescent materials, colorimetric components, bioluminescent materials, and radioactive materials.

6. (Currently Amended) A method according to Claim 5, wherein the substrate comprises at least one of the peptides selected from the group consisting of ~~EAAGAMFLEAIPK (SEQ ID NO: 1),~~ EGAMFLEAIPMSIPK (SEQ ID NO: 2), ~~KGTEAAGAMFLEAIPMSIPPEVK (SEQ ID NO: 3), GAMFLEAIPMSIPPE (SEQ ID NO: 4), and CGAMFLEAIPMSIPAAAHHHHH (SEQ ID NO: 5)~~ and variants, homologs or fragments thereof.

7. (Previously Presented) A method according to Claim 1, wherein the sample is selected from the group consisting of a wound surface on a subject and a fluid from a wound on a subject.

8. (Previously Presented) A method according to Claim 1, wherein the surface to which said substrate is attached is a biosensor surface associated with a solid support.

9. (Previously Presented) A method according to Claim 8, wherein the solid support is selected from the group consisting of a wound dressing, a container for holding body fluids, a disk, a scope, a filter, a lens, a foam, a cloth, a paper, a suture, a dipstick, a swab, a urine collection bag, a blood collection bag, a plasma collection bag, a test tube, a catheter, and a well of a microplate.

10. (Previously Presented) A method according to Claim 8, wherein the solid support comprises a material required to be free of microbial contaminants.

11. (Previously Presented) A method according to Claim 1, wherein the substrate comprises at least two dissimilar colorimetric components and the substrate is attached to a solid support surface selected from a polymer, a membrane, a resin, a glass or a sponge, wherein modification of the substrate comprises cleaving at least a portion of the substrate that includes one of the colorimetric components, the cleaving resulting in a visible color change.

12. (Previously Presented) A method according to Claim 11, wherein the colorimetric components are covalently attached to the peptide.

Claims 13-22 (Canceled)